Atraumatic Splenic Rupture After Myocardial Infarction: A Literature Review
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Background: Atraumatic splenic rupture is a rare complication of anti-coagulant and anti-platelet therapy in myocardial infarction (MI). We present the case of a 61 yr old female with late presentation (day 5) of inferolateral ST elevation MI. Initial management included ticagrelor, aspirin and weight adjusted enoxaparin without thrombolysis due to delayed presentation. After 4 days, profound hypotension with abdominal discomfort developed. A CT abdomen demonstrated a splenic haematoma with arterial contrast extravasation. Percutaneous splenic artery coiling and embolisation failed to arrest the bleeding, leading to laparotomy and splenectomy. This prompted a literature review of the association between MI and splenic rupture.

Method: A PubMed and Embase literature review was performed, using the terms “splenic rupture”, “spleen”, “haemorrhage” and “myocardial infarction” or “acute coronary syndrome”. All publications from 1980 onwards with an English language abstract were manually reviewed.

Results and Conclusion: 11 cases of atraumatic splenic rupture in patients with MI in the preceding 3 months were identified. 10 patients had a histologically normal spleen (1–11). 1 patient was subsequently diagnosed with polycythaemia vera. 8 cases were associated with thrombolysis. Inflammatory cytokine release from ischaemic myocardium causes immune cell recruitment and activation of a splenic reservoir of myeloid lineage cells (12,13). Iatrogenic activation of similar pathways with high dose G-CSF has also been linked to splenic rupture (14). Atraumatic splenic rupture has been rarely reported post myocardial infarction, often but not exclusively associated with thrombolytic therapy.

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Baseline and Short-Term Change in Plasma Uric Acid on Fenofibrate Predict Cardiovascular Risk: A Post Hoc Analysis of FIELD
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Background: Fenofibrate increases renal clearance of uric acid (UA). Relationships between baseline and short-term changes in plasma UA with fenofibrate and subsequent cardiovascular risk in patients with type 2 diabetes (T2D) are unknown.

Method: Post hoc analyses of the FIELD trial explored the relationships between CVD events and (1) baseline UA level; and (2) short-term change in UA level over 6-week single-blind active fenofibrate run-in.

Results: Data were from 9,622 patients with T2D. The FIELD trial showed 11% fewer cardiovascular events in patients with T2D assigned to fenofibrate compared to placebo over 5 years (HR = 0.89, 95% CI: 0.80–0.99, p = 0.035). Baseline UA ranged between 0.11 to 0.79 mmol/L (mean = 0.33, SD = 0.078). Each 0.1 mmol/L higher baseline UA increased CVD events by 21% (HR = 1.21 95% CI: 1.13–1.29, p < 0.001; Fig. 1A), and remained after adjusting for metabolic syndrome and other classic risk factors (HR = 1.12, 95% CI: 1.04–1.21, p = 0.002). Fall in UA level with fenofibrate run-in also predicted lower CVD risk, adjusted for baseline UA and irrespective of long-term treatment allocation (HR = 0.86, 95% CI: 0.76–0.97, p = 0.035; Fig. 1B).

Discussion: Baseline and short-term fenofibrate-induced lowering of UA predict cardiovascular risk in patients with T2D, irrespective of long-term trial treatment allocation.
reduction in total CVD events with fenofibrate was not shown to be mediated through the lowering of UA levels.

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Beta Blocker Use Increases The Risk of Perioperative Cardiac Events in Liver Transplant Patients

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Background: Recent evidence has linked beta blocker (BB) use with perioperative major adverse cardiovascular events (MACE) after non-cardiac surgery. BB are often used for treatment of portal hypertension in liver disease. We sought to determine whether BB use was associated with adverse perioperative outcomes in liver transplantation (LT).

Methods: Consecutive adult patients undergoing LT between 2010 and 2017 in the Victorian Liver Transplantation Unit were evaluated. Beta-blocker use, perioperative 30-day MACE (acute coronary syndrome, cardiac arrest, cardiac failure and ventricular tachycardia), and all-cause mortality were recorded from a prospectively maintained database.

Results: We evaluated 704 patients who underwent workup for LT. Of these, 462 proceeded to transplant (mean age 52 ± 13; 67.5% male). There were 84 (19.8%) patients on BB at the time of surgery. Patients on BB were older (55 ± 10 vs 52 ± 13 years; p = 0.025), and more frequently had coronary disease (15.5% vs 6.2%; p = 0.005) and atrial fibrillation (22.6% vs 2.6%; p < 0.001). There were 51 (11%) MACE and five deaths. BB use was associated with higher MACE (16.7% vs 8.5%; p = 0.026), but not all-cause mortality (2.4% vs 0.9%; p = 0.25). Multivariable logistic regression was used to adjust for age, Revised Cardiac Risk Index, coronary disease, atrial fibrillation and post-operative bleeding or infection. BB use was independently associated with increased risk of perioperative MACE (OR 2.06, 95%CI 1.14–3.71; p = 0.017).

Conclusions: BB use in patients undergoing LT was independently associated with higher perioperative MACE. This study adds to a growing body of evidence suggesting an association of BB use with adverse perioperative cardiac events.

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Burden of Rural Cardiovascular Disease in Remote Populations is Independent of Glycaemic Control

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Background: Our previous research has shown that diabetes and remoteness are independent predictors of cardiovascular disease burden in rural Australia. We aimed to determine whether this burden of disease was specifically associated with glycaemic control in an intermediate cardiovascular risk population in south-west NSW.

Methods: In this prospectively designed and recruited study, we assessed contemporary HbA1c results for 1436 patients undergoing cardiovascular risk stratification using CT coronary angiogram within the last 7 years from thirty-two hospitals. We then divided the patients into 3 groups depending on their distance from the regional centre to approximately correspond with the ARIA remoteness classifications for the Riverina. Three HbA1c results were discarded as outliers. An average HbA1c was then calculated for each group. Average HbA1c for subset of patients with HbA1c greater than 6.5% was also performed which included outliers.

Results: 720 out of 1436 patients had a contemporary HbA1c. The average HbA1c for the 489 patients living within 100 km of the regional centre was 6.11%. For the 204 patients living between 100 km and 200 km from the centre, the average HbA1c was 6.15%. 24 patients more than 200 km away had an average HbA1c of 6.31%. Subset data for 167 diabetic patients demonstrated an average HbA1c of 7.7% for 108 patients within 100 km, 7.6% for 51 patients between 100 and 200 km, and 7.8% for 8 patients more than 200 km from the regional centre.

Conclusion: There was no statistically significant difference between HbA1c scores depending on remoteness in the Riverina within an intermediate cardiovascular risk population including a subset diabetic population.

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